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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,920

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Michael R Smith

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9046

38441

7590

03/29/2011

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EXAMINER

BURCH, MELODY M

ART UNIT

PAPER NUMBER

3657

NOTIFICATION DATE

DELIVERY MODE

03/29/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JIM@WALTONPLLC.COM

Office Action Summary	Application No. 10/528,920	Applicant(s) SMITH ET AL.
	Examiner Melody M. Burch	Art Unit 3657

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21 and 23-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/21/11</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5439082 to McKeown et al. in view of US Patent 5520375 to Leibach et al.

Re: claim 21. McKeown et al. show in figure 4 a vibration isolator comprising a housing 7,27,29, a piston 33 resiliently disposed within housing, the piston being adapted for connection to a first body, a first fluid chamber 35 and a second fluid chamber 37 each being defined by the housing and the first piston, a first tuning port or top of 31, 41 in fluid communication with both the first fluid chamber and the second fluid chamber; and a tuning fluid disposed within the first fluid chamber, the second fluid

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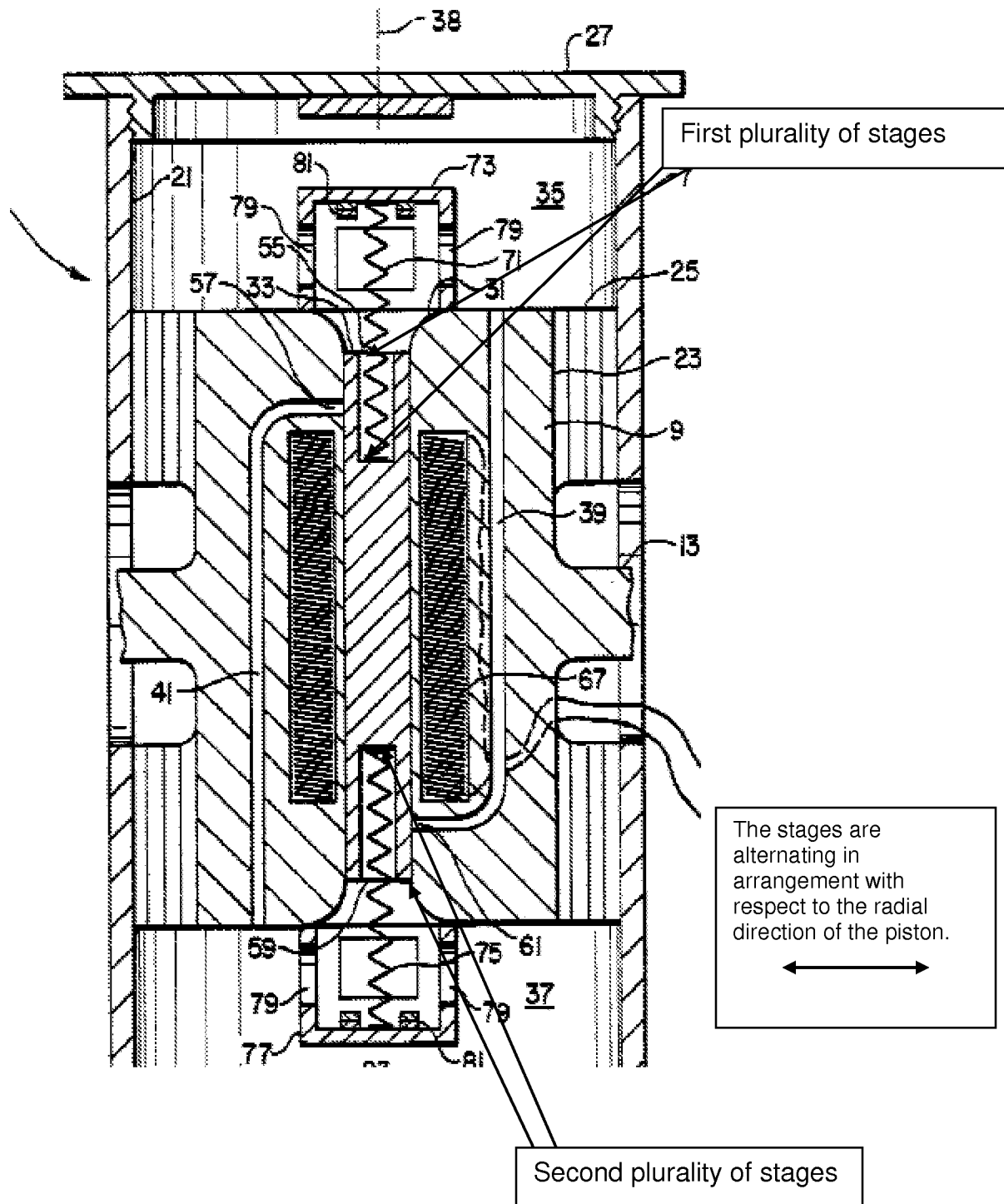
chamber, the first tuning port, and the second tuning port; wherein the first tuning port allows isolation of vibration at a first selected frequency, the isolation of vibration at the first selected frequency being a result of displacement of the tuning fluid in the first tuning port, the displacement being a result of movement of the piston, wherein the second tuning port allows isolation of vibration at a second selected frequency, the isolation of vibration at the second selected frequency being a result of displacement of the tuning fluid in the second tuning port, the displacement being a result of movement of the piston.

McKeown et al. are silent with regards to the vibrations being harmonic.

Leibach et al. teach in col. 5 line 65 – col. 6 line 2 the use of a vibration canceler allowing the isolation of harmonic vibrations.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the vibrations of McKeown et al. to have been harmonic, in view of the teachings of Leibach et al., in order to provide a means of eliminating imbalance associated with vibrations of a rotating device.

See next page.



Re: claim 23. McKeown et al., as modified, teach in figure 4 of McKeown et al. a spring-mass system 75, 77 associated with the second tuning port, the spring-mass system being configured to provide an additional degree of freedom.

Re: claim 24. McKeown et al., as modified, teach in figure 4 of McKeown et al. additional tuning ports top 79 and bottom 79 wherein each additional tuning port allows isolation of vibration at a corresponding additional selected frequency.

3. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of US Patent 5906254 to Schmidt et al.

McKeown et al. are silent with regards to the actuator being a piezoelectric actuator.

Schmidt et al. teach in col. 8 lines 49-53 a vibration isolator replacing the use of a magnetically actuated actuator to exert force on a floating mass with a piezoelectric actuator.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the magnetically actuated actuator of McKeown et al., to have included a piezoelectric actuator, as taught by Schmidt et al., in order to provide a functionally equivalent means of exerting a force on the floating mass.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 25, 27, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by McKeown et al.

Re: claims 25 and 27. McKeown et al. show in figure 4 a vibration isolator comprising: a first housing 7, 27, 29 a first piston 9 resiliently disposed within the first housing, the first being adapted for connection to a first body, a tuning port 31,41 in fluid communication with both a first fluid chamber 35 and a second fluid chamber 37, the first fluid chamber and the second fluid chamber each being defined by the first housing and the first piston as shown, a second housing 73, a second multi-stage piston 33 resiliently disposed within the second housing, the second piston being configured to define a first plurality of stages in fluid communication with the first fluid chamber and a second plurality of stages in fluid communication with the second fluid chamber; at least one actuator 67 coupled to the second multistage piston 33 for selectively transferring forces to the second multistage piston; a tuning fluid disposed within the first fluid chamber, the second fluid chamber, the tuning port, the first plurality of stages, and the second plurality of stages.

Re: claim 28. McKeown et al. show in figure 4 a first housing 73, a first multistage piston 33 resiliently disposed within the first housing, the first multistage piston being configured to define a first plurality of stages in fluid communication with a first fluid chamber 35, and a second plurality of stages in fluid communication with a second fluid chamber 37; a second housing 7, 27, 29; a second piston 9 resiliently disposed within the second housing, the second piston being adapted for connection to a first body; at least one actuator 67 coupled to the first multistage piston 33 for

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selectively transferring forces to the first multistage piston; a first fluid chamber and a second fluid chamber each being defined by the second housing and the second piston, at least one tuning port 31, 41 in fluid communication with both the first fluid chamber and the second fluid chamber, and a tuning fluid disposed within the first fluid chamber, the second fluid chamber, and the tuning port; wherein the at least one actuator is configured to actively augment vibration attenuation of the vibration isolator.

Drawings

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the additional tuning ports in claim 24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Examiner notes that Applicant elected species 16 directed to figure 23A. Figure 23A does not show additional tuning ports outside of the primary tuning port 1419 and the secondary tuning port 1421 as best understood by Examiner.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

8. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the originally filed specification lacks proper antecedent basis for the term "multistage piston" first recited in claim 25. Examiner notes that Applicant elected species 16 directed to figure 23A. In the description of the embodiment of figure 23A in paragraph [0149] the only described multistage component was the multistage piezo-pumper portion 1405.

Claim Objections

9. Claims 25-28 are objected to because of the following informalities:

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- In the last line of claim 25 the phrase "plurality of stanges" should be changed to --plurality of stages--;
- In line 12 of claim 28 the phrase "a first fluid chamber and a second fluid chamber" should be changed to --the first fluid chamber and the second fluid chamber-- to refer back to the previously recited first and second fluid chambers.

Appropriate correction is required. The remaining claims are objected to due to their dependency from an objected claim.

Response to Arguments

3. Applicant's arguments filed 1/21/11 have been fully considered but they are not persuasive.

With regards to claims 21, 23, and 24, Applicant argues that the McKeown reference, as modified, fails to read on the limitations added to amended claim 21. Examiner disagrees and notes that the movement of the piston within the first tuning port or top portion of 31 and 41 and the second tuning port or bottom portion of 31 and 39 of McKeown, as modified, results in the isolation of harmonic vibrations at various frequencies.

With respect to claims 25 and 27 Applicant argues that McKeown does not anticipate the claims because McKeown does not have a second housing. Examiner disagrees and notes that element 73 is a second housing which houses the second piston 33, particularly in its extended position when it contacts buffers 81. Applicant

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also argues that McKeown fails to show or suggest the limitation of the at least one actuator coupled to the second piston explaining that element 67 is not coupled to element 33. Examiner disagrees and notes that, as broadly recited, the at least one actuator 67 is magnetically coupled to piston 33. This response also applies to the similar arguments presented with respect to claim 28.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb

March 23, 2011

/Melody M. Burch/

Primary Examiner, Art Unit 3657